

CCACCGCGTCCGCGCGGGAGCTGCTTGGAGGCTCGCGGGCCGGAGGAGGCCGGGGCACGCTCTTGGAA  
GCTACTGAGTGACTTCTTGAAAGAACATGAAGTCACACTATATTGTGCTAGCTCTAGCCTCCCTGACGT  
TCCTGCTGTGTCTCCCCGTGTCAGAGCTGTAACAAAGCAGTCTGTGCCAGCGATGTGAGCAAATGCCT  
CATTCAAGGAGCTCTGCCAGTGCAGGGCTGGAGAAGGGAACTGCCCCCTGCTGTAAGGAGTGCATGCTGTGC  
CTCGGGGCCCTGTGGGACGAGTGCAGTGTGGTATGTGCAACCCCTCGGAATTACAGGACACCC  
CGCCCCACATCCAAGAGCACCGTGGAGGAGCTGCACGAGCCCATTCCGTCCCTGTCAGGGCGCTGACGGA  
GGGCGACACCCAGCTGAACCTGGAAACATCGTCTCCCTGTCAGAGGAGCTGTACACCATGAAAAC  
CTAGTCTCCTTCCCTAGAAACTGTGAACCAAGCTGACCAACCAAAACGTGCTGTTCCAGCAACAAATGTCC  
ACGCCCCCTCCCCAGCGACAAAGAGCGCATGTGCACAGTGGTTACTTGATGACTGCATGTCCATCCA  
CCAGTGTAAGATATCCTGCGAATCCATGGGTGCATCCAAGTATCGTGGTTTCACAACGCCTGCTGCGAG  
TGCATCGGTCCAGAGTGCATTGACTATGGGAGTAAAAGTCAAGTGTATGAACGTGCATGTTAAAGAG  
GGGGAAGAAATGCAAACCAAAAGCAAGAACGCTGACGATGCCGTGACACTCCTACCTTGCAGGATGTCCC  
CACAGAGTCCACTGGACCAGCTGTACAAGGGTGAAACCTTCTGCGTCACCTTCTGCTTTGCAGAGC  
CATGACAGCAGCTGCCCTACAGCGTATTAGCAGACAGACCTGACAGGGTGTGCATGTGACAGGCAGCC  
ATCAGGGTGGCCTAGCACATTGTGGGTGCTGATGTTGATTCACGTCAAAGACTGACCAGTCCTGAT  
AGGGCTGAAAGAGGAAAGGGGTGTGGGAAGGTGACTTTCTAGCTCTCCGTAGCAGCACACTGTCTA  
GTGTCAGTGTCAATTGCTGTGAAGAGACACCACAAGGACGTTATGAAGAAAGCCCTTAATT  
GGGCTCGCTTACAGTCCGAGGTTACTCCCTGGTCGTGGTGGGATGAGGCACTGGTAGGCTAGGCA  
TGGTGTGGAGCAGTAGCTGAATGTTGGTTACAAACTTAGCACCTCGAGTCATGATAGAAACACCATCC  
AGGCCTGAAAGCCAACACGTAGCAACACCAACTGCCAAAGCAGGATCAAGGCTCTGTCAGCGTCCCAGG  
ATGCAGTTGGCAAGTTCTGAGTGAATTCCTATACATACTAATCTGCAATTGCTTCTATAGTTCC  
TCTTCTGTTAACTATATGTCAGAACCAATTGAGAATATGG  
GTTTTTGTGAATAAAAAAAATAAAAAGGCCTGGCTGTCATAGATTGGCAAGTTCCCTGAGCCACAGG  
CTAACAGTAAAGACTTCTATTGGCTTAGGAGTATCCAAGGGGTGGCTCTCGTGAGAGTACCTCGCA  
ACAGCAGCAGATGGTGTGGAGGCTTGGCCTGCTGTTGGCTTGTGAAACCTTAAAGTCCACCCCCAGTGA  
CACGCCCTCCAAATAACACACACCTCTAATCCTTCTAAGTAGTCCCTCAACTGGGAACCAAGCATT  
CAGATATACTGAGCCCACAAAGGCCATTCTGTTCAAACCAACCATGTAATAAAATATGCCACGTCAA  
AAAAAAAAAAAAAAA (SEQ ID NO:1)

MKSHYIVLALASLTFLCLPVSQSCNKALCASDVSKCLIQELCQRPGEGNCPCC  
KECMLCLGALWDECCDCVGMCNPRNYSDTPPSKSTVEELHEPIPSLFRALTEG  
DTQLNWNIVSFPVAEELSHHENLVSLETVNQLHHQNVSVPSNNVHAPFPSDKE  
RMCTVVYFDDCMSIHQCKISCESMGASKYRWFHNACCECIGPECIDYGSKTVKC  
MNCMF (SEQ ID NO:2)

FIG. 1

red underlined = deleted in targeting construct

green = sequence flanking Neo insert in targeting construct

CCACCGCGTCGCGCGGGAGCTGCTTGGAGGCTGGCGGCCGGAGGAGGCCGGGCCACG  
CTTCTTGAAGCTACTGAGTGAATTCTTGAAGAACATGAAGTCACACTATATTGTGCT  
AGCTCTAGCCTCCCTGACGTTCTGCTGTCTCCCCGTGTCCAGAGCTGTAAACAAGC  
ACTCTGTGCCAGCGATGTGAGCAAATGCCTATTAGGAGCTCTGCCAGTGCCAGGCCCTGG  
AGAAGGAAACTGCCCTGCTGTAAGGAGTGCATGCTGTGCCTCGGGGCCGTGAGGACGA  
GTGCTGCGACTGTGTCGGTATGTCAACCCCTCGGAATTACAGCGACACCCGCCACATC  
CAAGAGCACCGTGGAGGAGCTGCACGAGCCCATTCCGTCCTGTCAGGGCGCTGACGGA  
GGCGACACCCAGCTGAACATGTCCTCCCTGTGGCAGAGGAGCTGTACA  
CCATGAAAACCTAGTCTCTTCTAGAAAATGTGAACCAAGCTGCACCAACAAAGTGT  
TGTTCCCAGCAACAATGTCACGCCCTTCCCGACGACAAAG [ AGCGCATGTGCACAGT  
GGTTTACTTGTGACTGCATGTCACCCACCGTGTGA ] AGATATCCTGCGAATCCATGGG  
TGCATCCAAGTATCGCTGGTTACAACCCCTGTCGAGTGCATCG [ GTCCAGAGTGCAT  
TGACTATGGGAGTAAACTGTCAGTGTATGAACATGCATGTTAAAGAGGGGAAGAAA  
TGCAAAACCAAGCA ] AGAACGCTGACGATGCCGTGACACTCCTACCTTGCAAGGATGCC  
CACAGAGTCCACTGACCAGCTGTACAAGGGTGAACACCTTCTGCGTCACCTTCTGCT  
TTTGCAGAGCCATGACAGCAGCTGCCTACAGCGTGAATTAGCAGACAGACACTGACAGGT  
GTGTCATGTGACAGGCAGCCATCAGGTGGCCTAGCACATTGTGGGTGCTGATGTGTA  
TTGCACTGTCAAAGACTGACCAGTCTGATAGGGCTGGAAAGAGGAAAGGGGTGTTGGAA  
GGTGAATTCTTAGCTCTCCCTAGCAGCACACTGTCATAGTGTCTCAGTGTCAATTG  
TGTGAAGAGACACCACAACCAAGGCAGCTTATGAAGAAAGCCCTTAATTAGGGCTCGTT  
TACAGTTCGAGGTTACTCTGGTCGTCGTGGTGGGATGAGGCACTAGGTAGCAGGCA  
TGGTGTGGAGCAGTAGCTGAATGTTGGTACAAACATTAGCACCTCGAGTCATGATAGA  
AACACCATCCAGGCCCTGAAAGGCCAACACGTAGCAACACCACTGCCAAAGCAGGATCAA  
GGCTCTGTCAGCGTCCCAGGATGCAGTTGGCAAGTCTTGAGTGAATTCCCTATACATA  
CTAACTCTGCAATTGCTTCTAGTCTCTTGTAACTATATGTCAGAACCAT  
TTCAGAAATGGGTTTGTGAATGGGGGGGGCTGGTCTGCAAGGATGGGGGGGGGGGG  
CAAGTTCCCTTGCAAGCCACAGGCTAACAGTAAAGACATTCTATTTGGCTTCTGGAGTATC  
CAAGGGGTGGTCTCTGAGAGTACCTCGCAACAGCAGCAGATGGTGGAGGCTGG  
CCTGCTGTGGCTTTGAAACCTTAAAGTCCACCCCCAGTGACACGCCCTCTCCAATAAC  
ACCACACCTCTAACCTTCTAAGTAGTCCCTCAACTGGGAACCAAGCATTAGATA  
CGAGCCCCACAAAGGCCATTCTCGTTCAACACCACATGTAATAAAATATGCCACGTC  
AAAAAAAAAAAAAAA (SEQ ID NO:1)

FIG. 2A

Gene Sequence  
Structure \*

639 bp

Sequence Deleted

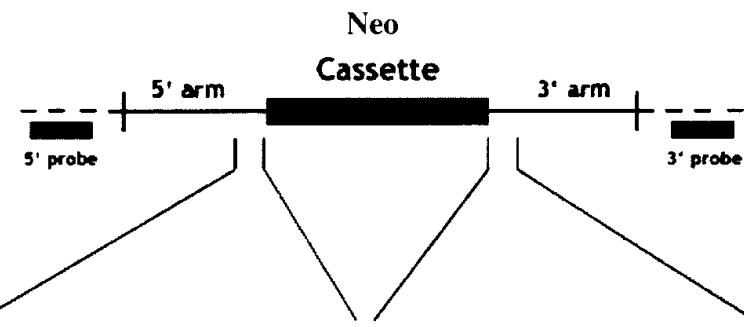
707 bp

Size of full-length  
cDNA: 1879 bp

### Targeting Vector\* (genomic sequence)

Construct Number: 203

Arm Length:  
5': 1.9 kb  
3': 3.6 kb



— Targeting Vector  
- - - - Endogenous Locus

\* Not drawn to scale

<p>5' &gt;AACAAATGAAGATCTTTGTC CCTCGTTTTGTCCTGTGCTGATG AGCAGTAAGAGGGCTAGAAAGTAA CTGCAGGTATTCTCTGAGCAAGCG AGCGAGTGGCCGAGCTCTCCTGC CTGTACTGAAATGCCCTTGCAT TTCAGAGCGCATGTGCACAGTGGT TTACTTGATGACTGCATGCCAT CCACCAAGTGTA&lt;3' (SEQ ID NO: 3)</p>	<p>5' &gt;GTCCAGAGTGCATTGACTATG GGAGTAAACTGTCAAGTGTATGA ACTGCATGTTAAAGAGGGGAA GAAATGCAAACCAAGCAGTAAGT CATGAAGTGTGCAGAAATCTGGT TCTGGTATGCTAGGAGTGTGTTAA GTTATATGATTGTAACTGTGCTTT TTATATCTGGTGCCTATTAGTGTA GGTCTTTCCA&lt;3' (SEQ ID NO: 4)</p>
---	--

FIG. 2B